Testimony of Thomas Bowes to the Michigan House Committee on Regulatory Reform regarding House Bill 4561 to revise the Code Update Cycle to up to six years.

September 14, 2011

I come to you today as a skilled trade worker, a participant in the development of the photovoltaic installation standards for the 2011 and 2014 National Electrical Codes, and as an education professional who has worked full-time for the past 17 years developing courses and presenting electrical technical information to electrical apprentices, journeymen, contractors, engineers and inspectors. I am the Assistant Director of the Electrical Industry Training Center in Warren, Michigan, a privately funded skilled trades training partnership for the electrical industry. I also serve as a board member for the Michigan Chapter of the International Association of Electrical Inspectors, a provider of continuing education training for Building Code Officials.

I am here to express my concern about the potential ramifications of House Bill 4561 and how it would impact the electrical industry specifically and the construction industry in general. While it may seem like a good idea to slow or delay the code adoption process in Michigan in an effort to lower the cost to state and municipal governments, it is my opinion that to do so would likely have some significantly negative impacts to the construction industry and to the manufacturers that serve it.

There is a fundamental misconception in viewing building codes as governmental regulations. They are in fact industry standards; proposed, technically justified and vetted by industry professionals. Many of these professionals have extraordinary backgrounds in the topics which are addressed in the specific areas of the code, and they have been recruited to provide technical expertise in these areas. The code is unusual in that it has a duality to its very nature; it is at once both limiting and enabling. It insists on the installation of certain items and provisions as part of the built environment in order to provide for safety, but also prohibits the use of other items. It is at once prescriptive and proscriptive.

While the purpose of the code is to ensure public safety and while the code does not recognize any specific proprietary product, in reality **the code is the de facto resource used by building officials and contractors to determine whether various types of products can be incorporated into a building** without further scrutiny as to their suitability. Essentially, the inclusion of a type of product in the code and clear directives by the code as to the permitted uses of, or prohibitions against certain uses of the product, helps to speed the permitting and inspection process. Without those guidelines it often falls to the contractor, architect, engineer or customer to convince the building code official that a product can be used safely for a given application. This process of fact gathering, evaluation, and determination by the code authority on a local level creates delays and additional expense for both the governmental and private entities involved.

Yes, there is a cost for updating our building codes, but often the initial cost to contractors and governmental units for code books and education is rapidly offset when contractors and industry end users are able to easily incorporate new products into buildings as allowed by the new code.

It has been argued that the cost of code books, educational materials and training programs for code officials is excessive. I would make the case that code books are a bargain, easily saving their initial cost with as little as one instance of a contractor or customer being told, "Go ahead, it's in the Code."

Continuing education for code officials and other building industry professionals is a fact of life if we are to keep our industry professionals up to date on new code provisions and technologies. The pace of technological change, especially within the electrical industry, continues to increase and ongoing training is a necessity to keep abreast of new inventions and subsequent code revisions.

Professor Michael Porter at the 2011 Mackinac Policy Conference stated that "productivity is the iron law of the economy", and advised that all governmental regulation should be developed by asking a fundamental question: "Is this making us more productive?" He noted that there are a number of things which government can do to help facilitate economic growth. Four of the things that he listed are:

1) Simplify and speed up regulation and permitting.
2) Reduce unnecessary costs of doing business.
3) Establish training aligned with business needs.
4) Design all policies to support emerging growth companies.

Timely code adoption helps to facilitate all four of these areas of concern. Even though the code itself may require new means to provide additional safety features into a building, it also helps to speed up permitting and inspection by giving building officials a set of clear and relevant guidelines by which to evaluate plans and installations based on the most current industry standards.

Current codes also help to reduce unnecessary business costs by establishing a governmental environment in which industry-accepted methods and practices are able to be applied in a variety of situations without building code authorities having to second guess or determine on a case by case basis whether a given product type is suitable for safe installation. It should be kept in mind that new code provisions often help to reduce the cost of construction by allowing less expensive alternatives to traditional construction methods.

When codes are updated closely with their national counterparts the educational process for architects, engineers, tradesmen, contractors, and inspectors is simplified and more relevant and productive. Educational programs are developed and delivered in "real time", only slightly behind the actual creation of new products and often in response to business needs. At present the Michigan building code official education requirements are based on a three year cycle in which educational topics discussed must be present in the currently approved code in order for a program to be approved for continuing education credit. If we were to go to some other period for our code adoption cycle it would create a number of problems in trying to coordinate the training needs of our industry professionals.

The point has been made that Michigan needs the flexibility to be able to change its code cycle periods as determined by regulators. I would argue that we already have a lot of flexibility in our code cycle. For example, the 2009 Michigan Residential Code did not become effective until March 9, 2011. The 2008 Michigan Electrical Code did not go into effect until December 2, 2009; even though the

2008 National Electrical Code (NEC) was published in September of 2007. Adoption of the 2005 NEC did not go into effect until November 23rd 2007, over three years after the national Code was available in September of 2004. This delay created additional challenges in even procuring the needed educational materials for continuing education courses, since much of the country was already focusing on teaching the provisions of the 2008 Code just as we were getting around to the 2005 edition. **One of the ironic things about printed code materials is that the longer the adoption and purchase decision is put off, the more expensive they become.**

Philosophically, I wish to make the point that it is the job of private industry, and not the government, to determine when the code has reached the point to warrant change. Three year code cycles have been the industry standard for code updates for as long as anyone can remember and industry is already geared for that schedule. Timely code adoption keeps our practices in line with both national and international standards and helps Michigan to be at its competitive best; helping to support emerging technology companies by enabling their products to be incorporated into new buildings as the new code allows.

Like it or not, the code is an iterative document based on a reiterative process. It is a reflection on the level and rate of technological innovation and development, and is both an indicator and a vanguard of creative solutions to practical safety problems. If we compare the 1947, 1975, 1999 and 2011 version of the National Electrical Code we can see a pattern. The size of the Code has increased exponentially throughout the years in response to the accelerated pace of technological change and the types of products which it covers. Essentially our building codes are similar to a printed phone book, albeit on a three-year rather than a one-year cycle. Imagine if you will that you are trying to do business while using a seven or eight year old phone book and you'll have an idea of what it is like to be using code resources which are out of date. **Although we live in an internet age, it is Gutenberg technology that we have to rely upon when dealing with periodically updated standards such as the code.**

The 2011 NEC code change cycle brought in 5077 submissions for change, of which 4093 were from individuals and/or businesses outside of the code-making panels. Many of the changes were minor and dealt with the details of modifying definitions and dealing with punctuation and formatting. Other changes resulted in completely new articles or significant expansion within the code to deal with things such as small wind turbines and higher voltage distribution systems which will be used in conjunction with photovoltaic installations. In all, only a few hundred of the proposed changes made their way into the Code. **This is a testament to a democratic process that works, but why it works is partly because there are strict time limits on code change proposals.**

In fact, the deadline for proposed changes to the 2014 National Electrical Code is a mere 51 days away, on November 4th of this year. Such long lead times are necessary in order to properly sort, investigate, and deliberate on the technical justifications for a given change. **To add additional regulatory delays at the state level after national industry experts have agreed on appropriate code changes is counter to a fundamental conservative tenet. The assertion that the government is most effective when private industry is allowed to be the leader in the marketplace is valid with respect to code adoption and should be acted upon accordingly.**

Disallowing the adoption of national codes by reference as proposed by HB 4561 would add to the cost of the code review process by the state government and would create further delay. **We already have the means for interested parties to object to new code provisions on a state level and to make a technical or economic case as to why a particular national code requirement should not be adopted.** This is evidenced by the absence of the national code provisions for Arc Fault Circuit Interrupters and Fire Sprinklers in the Michigan Residential Code.

Re-reviewing each and every code change in all of the various building codes after competent national organizations have invested many private industry hours and financial resources in the code update process is a waste of Michigan taxpayer dollars.

The public debate regarding HB 4561 has been clouded by the allegations of certain parties who maintain that those who are in opposition to lengthening the code update cycle are merely trying to line their pockets at consumer expense. I wish to refute this on behalf of the two organizations that I serve. The Electrical Industry Training Center provides electrical code update training to its trust fund participants at a mere $50 for 15 hours of state-approved training, which includes beverages, snacks, and two full meals. This is a money-losing, not a money-making endeavor, subsidized by our training fund. The Michigan Chapter of the IAEI (and the Reciprocal Electrical Council of metro Detroit) provides similar training and amenities for around $200. These organizations provide code update materials and books to participants at cost in an effort provide affordable, up-to-date training for electrical industry professionals. This training helps to reduce the cost to consumers by helping contractors, installers, and code officials to eliminate confusion and have a consistent understanding of code provisions.

In the interest of promoting productivity we should not build additional delays into our code approval process. The lack of current codes discourages innovation and slows the permitting and inspection process. If the Michigan code approval schedule is out of sync with industry standards it impedes the development and delivery of relevant continuing education courses to our tradesmen and building inspectors. Up-to-date codes help to spur jobs through the opportunity to build cutting-edge structures, incorporate new technologies, and help to create jobs the manufacturing, research, and development facilities which produce the new products which the code allows.

I ask that you give due consideration to leaving our building codes on a three year cycle and reject the provisions contained within House Bill 4561.

Please feel free to contact me regarding this matter at 586-751-6600 x 106.

Respectfully submitted by Thomas Bowes, State of Michigan licensed journeyman electrician and skilled trade educator